

Picture:  
Stadler



## RhB Orders New Trains

On 30 June 2016 Stadler was awarded a 285 million CHF contract by Rhätische Bahn to build 27 four-car metre-gauge rakes of stock, with an option clause for 20 more. These trains, formed by a powered end car and three trailers, one a driving trailer, are designated as Flügeltriebzüge (FTZ - translates as „Winged powered trains“), this indicating that the trains will run in multiple, being separated and coupled up en route.

They will have a Bo' Bo' + 2' 2' + 2' 2' + 2' 2' axle arrangement and will be designed for operation off 11 kV AC 16.7 Hz. Maximum approved speed will be 120 km/h, but in regular service only 100 km/h will be achieved. The power car will be rated at 1,000 kW (with a maximum power of 1,400 kW), and the maximum starting tractive effort will be 150 kN. Automatic couplings will be fitted, resulting in speedy coupling/separation at Klosters Platz.

In general, the design of the new trains will be extremely robust. They will

be 76.44 m long, 2,670 mm wide, and will have a max. height of 3,780 mm above rail top. Their tare weight will be 114 t, and gross laden weight will be 140 t. They will be fitted with 35 first and 137 second class seats. Of these, 12 first and 22 second class seats will be situated in the low floor areas. There will be two wheelchair harness points and seven tip-up seats.

The interior and access will meet the requirements of the Swiss Disability Equality Act **BehiG** (Behindertengleichstellungsgesetz), with entrance door width being designed to facilitate speedy boarding and alighting. The interior will be fully air conditioned, and will be extensively low floor, 450 mm above rail top in the entrance vestibules, while the high floor areas will be 960 mm above rail top. There are two WCs, one of them designed for handicapped passengers. Space will be provided for the carriage of bikes, skis, prams and bulky luggage.

Construction will be realised at Stadler's Altenrhein works, with deliveries starting in summer 2019, and finished by 2022. The trains will be mostly used on Landquart to Klosters Platz services, where they will run in multiple, and on Klosters Platz to Davos and St. Moritz services, where they will operate as four-car formations.

This is RhB's largest single new train order in the operator's entire history. Today RhB has a fleet of approximately 1,120 vehicles. And although in recent

years it carried out extensive rolling stock purchases, the average age of the vehicles used for passenger services is still over 30 years.

Essentially the new trains, to be designated Class ABe 4/16 3111 - 3137, will be similar in design to the existing 20 Stadler-built Class ABe 8/12 and ABe 4/16 Allegra EMUs, which entered service in 2010/12. They will replace the 1970s-built Class Be 464 EMUs, and a number of locomotive-powered push-pull rakes, and will supplement the Allegras and the six new, articulated seven-car Alvra push-pull rakes (known as AGZ, Albula Gliederzüge, Albula articulated trains), also built by Stadler. The first Alvra (the Romansch name for Albula) was put into commercial service on 11 June 2016. **The photo below shows an AGZ on a test run on 2 June, powered by Ge 4/4 II 625, at La Punt-Chamuesch (near St. Moritz).**

Stadler, Jürg D. Lüthard

Photo below: Ludwig Gs



## First Arriva Nederland Limburg Concession FLIRT Presented

Starting on 11 December 2016 Arriva Nederland is to operate bus and rail services within Limburg, the southernmost of the Dutch provinces. The rail services will cover five routes:

- Maastricht Randwijck - Kerkrade Centrum (Heuvellandlijn, 33 km, electrified, 1.5 kV DC),
- Roermond - Venlo - Nijmegen (Maaslijn, 61 km, non-electrified, electrification planned for completion in 2020), both currently operated by Veolia,
- Maastricht Randwijck - Roermond and Heerlen - Roermond (both part of NS's core 1.5 kV DC electrified network concession),
- Heerlen - Aachen Hbf. (Germany). Services on this international route will be branded Limax, and Arriva envisages creating a half-hourly service between Maastricht and Liège. This, serving the Netherlands, Germany and Belgium, will require the use of triple-voltage trains (1.5 kV DC, 3 kV DC and 15 kV AC 16.7 Hz).

In readiness for this 15-year contract, which was awarded in May 2015

Arriva placed an order with Stadler in June 2015 for 15 two-car and 21 three-car FLIRT EMUs. **The first of these, a two-car unit No. 450, was ready by mid-July 2016, and on the 15th of the month was presented to the public at Stadler's Blerick works in Venlo.** During the event Hein van der Schoot of Stadler Nederland and Anne Hettinga of Arriva Nederland signed a 15-year full-service contract for the new FLIRTs as well as for 24 Stadler-built GTW DMUs and EMUs and for seven Alstom-built Lint DMUs, the work to be realised at Blerick, which was taken over by Stadler in January 2014.

Of the batch of 36, the 15 two-car 1.5 kV DC FLIRTs will have four pairs of entrance doors, and will be delivered by December 2016. 13 of the 1.5 kV DC three-car trains will have five pairs of entrance doors, and deliveries of these EMUs will start in December 2020. The remaining eight of the three-car trains will be destined for the Limax service, and be triple-voltage. They will have three pairs of entrance doors, these trains intended for longer distance, limited-stop services, and will be delivered by December 2017.

All will feature 1,300 mm wide entrance doors, spacious legroom between seats (1,800 mm in bays, 1,900 mm in rows), leather seat upholstery in first class accommodation, vacuum-retention WCs, and wall-mounted power sockets for personal electrical equipment. The two-car trains will have a Bo'2'2' axle arrangement and will be 45,700 mm over couplings. They will be rated at 1,500 kW at wheel rim. The three-car trains will have a Bo'2'2'2' axle arrangement and will be 63,200 mm long over-

all. They will also be rated at 1,500 kW at wheel rim. All will be designed for a top service speed of 140 km/h.

Arriva Nederland is part of the DB-owned Arriva Group, and is active in many parts of the Netherlands, notably in Drenthe, Flevoland, Friesland, Gelderland, Groningen, Noord Brabant, Zuid Holland, Limburg and southeast Friesland provinces, including the Wadden islands, with a workforce of over 6,000.

Arriva Nederland, Stadler

Photo: Marco Reeuwijk

